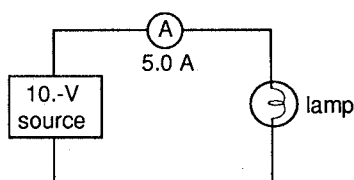


Mixed Power Problems

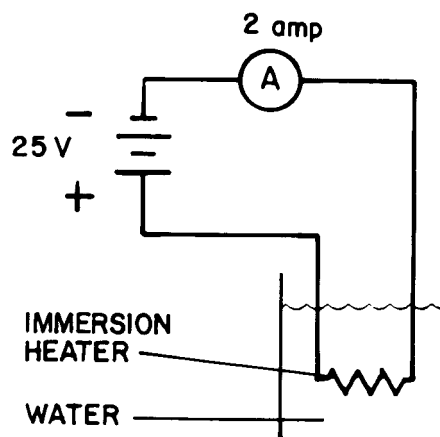
1. A lamp and an ammeter are connected to a source as shown.



What is the electrical energy expended in the lamp in 3.0 seconds?

- 1) 50. J
 - 2) 150 J
 - 3) 50. W
 - 4) 150 W
2. If energy is used in an electric circuit at the rate of 20 joules per second, then the power supplied to the circuit is
- 1) 5 watts
 - 2) 20 watts
 - 3) 25 watts
 - 4) 100 watts
3. The same potential difference is applied to two lamps, *A* and *B*. The resistance of lamp *A* is twice the resistance of lamp *B*. Compared to the power developed by lamp *B*, the power developed by lamp *A* is
- 1) less
 - 2) greater
 - 3) the same
4. An operating electric iron draws a current of 5 amperes and has a resistance of 20 ohms. The amount of energy used by the iron in 40 seconds is
- 1) 1×10^2 J
 - 2) 5×10^2 J
 - 3) 4×10^3 J
 - 4) 2×10^4 J
5. An operating electric heater draws a current of 10. amperes and has a resistance of 12 ohms. How much energy does the heater use in 60. seconds?
- 1) 120 J
 - 2) 1200 J
 - 3) 7200 J
 - 4) 72,000 J

6. How long will it take the immersion heater shown in the diagram below to deliver 1000 joules of heat to the water?



- 1) 0.2 sec 3) 20 sec
2) 2 sec 4) 200 sec
7. Which is a unit of electrical energy?
1) ampere 3) volt
2) kilowatt-hour 4) watt
8. One watt is equivalent to one
1) N•m 3) J•s
2) N/m 4) J/s
9. An electron-volt is a unit of
1) potential difference 3) current
2) charge 4) energy

Mixed Power Problems
Answer Key
[New Exam]

1. 2

2. 2

3. 1

4. 4

5. 4

6. 3

7. 2

8. 4

9. 4